Xin Wen

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EDUCATION

College of Electronics and Information Engineering, Tongji University   **Shanghai, China**

Major: M.S. in Computer Science   expected: July 2021

GPA(General): 4.49/5.00, **Rank**: 32/158 (including non-experimental-area students)

Relevant Coursework: Data Structures, Algorithm Analysis and Design, Operating Systems, Principle of Compilers, Computer Organization, Computer Networks, Software Engineering, Pattern Recognition, Multimedia Technology, Computer Graphics, etc.

Mathematical Intensive Training Class (Innovation Experimental Area), School of Mathematical Sciences, Tongji University

Major: M.S. in Computer Science, **Minor**: M.S. in Mathematics   Sept. 2017 – Jan. 2019

GPA(General): 4.35/5.00, **Rank**: 2/15

Relevant Coursework: Mathematical Analysis, Advanced Algebra, Theory of Probability, Statistics, Discrete Mathematics, Combinatorics, Introduction to Information Theory, Numerical Analysis, Complex Analysis, Ordinary Differential Equation, etc.

United in Manchester International Summer School 2019, The University of Manchester   **Manchester, UK**

Relevant Coursework: Artificial Intelligence, Machine Learning, Business and English Communication, etc.   July 2019 – Aug. 2019

EXPERIENCES

Computer Vision Intern, Visual Computing Group of ByteDance AI Lab   Jan. 2020 – Present

- Guided by Dr. Jie Shao, conducted research on Computer Vision, especially on Video Representation and Video Retrieval
- Proposed to refine video representation with feature aggregation models to utilize context information; Proposed to train video retrieval models with contrastive learning and memory bank mechanism to utilize massive unlabeled distractors in video retrieval datasets; Proved the property of automatic hard negative mining of softmax-based loss on normalized features by conducting gradient analysis; Achieved superior results on video retrieval datasets such as CC_WEB_VIDEO, FIVR-200K, EVVE, etc.
- Collaborating with Prof. Xiangyang Xue and Prof. Yugang Jiang, our co-authored paper *Context Encoding for Video Retrieval with Contrastive Learning* has been contributed to ACM MM 2020 (Joint first author)

Research Assistant in College of Electronics and Information Engineering, Tongji University   Sept.2019 – Present

- Guided by Prof. Yin Wang, conducted research on Computer Vision, especially on vehicle ReID and person ReID
- Assisted in proposing and implementing Positive-Unlabeled learning trained by adversarial networks to alleviate the camera limitation suffered by Person ReID
- Our co-authored paper *Person Re-identification Using Positive-Unlabeled Learning* has been contributed to CVPR 2020

Secretary in Department of Arts, Student Union of Tongji University   Sept. 2017 – July 2018

- Organized daily scripting, video capture, etc., assisted in property management for the 32nd Campus Top 10 Singers Contest
- Responsible for audio control of the 111th School Anniversary and Graduation Ceremony, won the title of Outstanding Secretary

AWARDS

Qidi Scholarship of Tongji University (Top 1%)	June 2020
15th out of 1514 teams, Machine Reading Comprehension Task of 2020 Language and Intelligence Challenge	May 2020
Outstanding Student Scholarship Second Prize	Nov. 2019
8th out of 705 teams, Video Copy Detection Track of 2019 CCF Big Data & Computing Intelligence Contest	Nov. 2019
Champion in China, Covestro International Data Science Hackathon	Nov. 2019
Silver Medal, The 43rd ACM International Collegiate Programming Contest Asia-East Continent Final	Dec. 2018

LANGUAGES & SKILLS

Languages: Mandarin (Native); English (Fluent), TOEFL: 96

Programming Skills: Proficient in C/C++, MATLAB, Python, Verilog HDL; Familiar with JavaScript, React.js

Platform and Toolkits: Proficient in Linux, Bash, Git, LaTeX, PyTorch, TensorFlow, OpenCV, OpenGL; Familiar with Vim, MySQL

Multimedia Skills: Proficient in Adobe Photoshop, Illustrator, Premiere Pro, Audition; Familiar with Adobe After Effects

温鑫

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教育背景

同济大学电子与信息工程学院 上海

主修: 计算机科学与技术 2017.09-2021.07

平均绩点: 4.49/5.00，**排名:** 32/158（含非试验区同学）

课程: 高级语言程序设计、数据结构、算法分析与设计、计算机组成原理、操作系统、编译原理、计算机网络、数据库系统原理、计算机系统结构、软件工程、图像处理导论、多媒体技术、计算机图形学、模式识别、中文信息处理等

基于强化数理基础的工程科技人才培养模式创新实验区，同济大学数学科学学院 上海

主修: 计算机科学与技术，**辅修:** 数学 2017.09-2019.01

平均绩点: 4.35/5.00，**排名:** 2/15

课程: 数学分析、高等代数、概率论、统计学、数值分析、数学建模、离散数学、组合数学、复变函数、常微分方程等

曼彻斯特大学暑期学校 英国曼彻斯特

课程及项目内容: 人工智能、机器学习、创业与英语文化等 2019.07-2019.08

科研经历

字节跳动人工智能实验室视觉计算组 计算机视觉实习生 2020.01-至今

- 受邵杰博士指导，在计算机视觉，尤其是视频表征与视频检索领域进行研究
- 提出采用特征聚合模型利用时间上下文信息优化视频特征；提出采用对比学习和内存池机制以充分利用视频检索数据集中的无标注负样本；通过梯度分析在理论上证明了 Softmax 损失及其变种结合特征归一化的自动难样本挖掘性质；在 CC_WEB_VIDEO，FIVR-200K，EVVE 等视频检索数据集上均取得了优秀表现。
- 与薛向阳教授和姜育刚教授合作，以共同第一作者身份投稿论文 *Context Encoding for Video Retrieval with Contrastive Learning*，目前 ACM MM 2020 在投

同济大学（电子与信息工程学院）研究助理 2019.09-至今

- 受王胤教授指导，在计算机视觉，尤其是车辆重识别与行人重识别领域进行研究
- 协助提出并实现使用对抗网络训练的正样本-未标注样本学习方法（Positive-Unlabeled learning），以解决行人重识别领域跨摄像头数据标注困难的问题
- 以第二作者身份参与论文 *Person Re-identification Using Positive-Unlabeled Learning*，投稿 CVPR 2020

学生工作

同济大学学生会 文艺部干事 2017.09 - 2018.07

- 为制作宣传视频组织日常脚本撰写、视频拍摄与剪辑工作，在同济大学 111 周年校庆暨毕业晚会负责音控工作
- 由于工作认真负责，表现优异，在 2017 - 2018 第二学年度获得同济大学学生会优秀干事称号

获奖情况

同济大学启迪奖学金（前 1%）	2020.06
2020 语言与智能技术竞赛：机器阅读理解任务，全国第 15 名（共 1514 队）	2020.05
同济大学优秀学生奖学金，二等奖	2019.11
2019 CCF 大数据与智能计算大赛 视频版权检测算法赛道，全国第 8 名（共 705 队）	2019.11
科思创国际数据分析马拉松应用设计大赛（Hackathon），中国区冠军	2019.11
2019 年全国大学生数学建模竞赛本科组，上海赛区二等奖	2019.09
2019 年同济大学程序设计竞赛，一等奖	2019.04
第 43 届国际大学生程序设计竞赛亚洲区决赛(The ICPC Asia-East Continent Final)，银奖	2018.12

语言与技能

语言能力: 大学英语六级 CET6（557 分），TOEFL（96 分）

编程技能: 熟练掌握 C/C++, MATLAB, Python, Verilog HDL；熟悉 JavaScript, React.js

平台与工具: 熟练掌握 Linux, Bash, Git, LaTeX, PyTorch, TensorFlow, OpenCV, OpenGL；熟悉 Vim, MySQL, FFmpeg

多媒体技能: 熟练掌握 Adobe Photoshop, Illustrator, Premiere Pro, Audition, Acrobat DC, XD；熟悉 Adobe After Effects